KENTUCKY
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Chemical Weapons Disposal and Environmental Justice

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Kentucky Environmental Foundation (KEF) is a non-profit public corporation dedicated to educating citizens about environmental issues. Our primary mission is to improve access to information, promote communication and foster cooperation between government and citizens on matters concerning the environment.

KEF is the democratically-elected lead organization of the Chemical Weapons Working Group (CWWG), a coalition of grassroots organizations in the US, the Pacific and Russia who work toward safe disposal of chemical weapons.

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I

Introduction

"...each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions..."

--President William Clinton
(Executive Order 12898, February 11, 1994, Sec. 1-1, 1-101)

"Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no groups of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies."

--Environmental Protection Agency
(EPA, Guidance 1996, CUP 7)

This paper argues that the Army's continued determination to use incineration as the disposal technology for stockpiled chemical weapons:

1) is in direct conflict with President Clinton's mandate for consideration of environmental justice in the decision making of Federal agencies as outlined in Executive Order 12898; and

2) violates the precepts of environmental justice as defined by the Environmental Protection Agency.

II

Background

The United States began to research, produce and store chemical weapons during World War I. Mustard gas was the first and the most important chemical weapon until the 1940s when the development of other chemical agents began. During the 1950s and early 60s, the production of chemical weapons greatly increased and they were, and continue to be, stockpiled at eight continental storage depots and on Kalama Atoll in the Pacific. The four stockpiled chemical agents are:

- **Mustard gas**, termed agent H by the Army, quickly penetrates the skin and is a potent carcinogen. Inhalation of H produces pulmonary edema.
- **GB or sarin**, the most volatile of the nerve agents, causes victims to experience pinpoint pupils, increased salivation, abnormal tearing of the eyes, urination, diarrhea, convulsions, respiratory collapse and death.
- **VX**, twice as toxic as GB by inhalation, 10 times as toxic orally and 170 times as toxic by percutaneous administration, has similar immediate, acute toxic effects.
- **BZ**, a potent psychomimetic, produces hallucinations, confusion, delirium, amnesia, rapid heartbeat, dilated pupils, ataxia and weakness (National Research Council, 1984).

By 1968, production of unitary chemical weapons in the US had stopped and the Army was disposing of the obsolete weapons by deep ocean dumping, land burial and open-pit burning. However, increased environmental awareness and concern led to the banning of these methods. In 1969, a National Academy of Science study concluded that ocean dumping should be abandoned and in 1972 Congress passed the Marine Protection Act which prohibited any further ocean disposal (Bradbury, et al., 1994).

Between 1973 and 1982, the Army extensively researched neutralization, but by 1982 had made the decision to use incineration as the preferred technology for chemical weapons disposal without input from local citizens. To satisfy the requirement of public participation in the decision making process as mandated by the National Environmental Protection Act (NEPA), the Army held public Scoping Meetings at all stockpile sites for after-the-fact meetings regarding Environmental Impact Statements. In these meetings, local citizens were asked, **not** for input into the choice of technology, but for input into whether agent should be incinerated on-site or transported to national or regional sites and incinerated there (Futrell, 1996). At that time little was understood about the risks of

incineration, but local citizens were uneasy enough to not want it in their own backyards and generally preferred transportation to on-site incineration. However, in 1988 the Army made the decision to incinerate on-site, citing safety hazards involved with transportation as justification (Ambrose, 1988).

Based on this decision, the Army made plans to build a chemical weapons incinerator at each stockpile site. At the time of the decision, an incinerator had already been built on Kalama Atoll in the Pacific to dispose of chemical weapons belonging to the US that had been shipped there in 1971 from Okinawa when it reverted to Japan. The decision to incinerate on Kalama was made without input from the Pacific Islanders (Alailima, interview 1996).

III

President Clinton's Executive Order and Environmental Justice

The assessment of environmental justice in the siting of hazardous waste industries has become a common thread in research being done throughout the country. Extensive documentation of environmental discrimination began with governmental and private investigations during the 1980s and continues in the 90s.

- In 1983 the US General Accounting Office (GAO) researched the racial and economic characteristics of communities surrounding four hazardous waste landfills in three southeastern states. Based on that research the report concluded that three of the four landfills were in communities with majority African-American populations and that at least 26% of the population at all four sites is poor (GAO 1983, p. 1).

- In 1987, the United Church of Christ's Commission for Racial Justice published a study revealing that race proved to be the most significant among variables tested in association with the location of commercial hazardous waste facilities and that three out of every five African Americans and Hispanic Americans live in communities with uncontrolled toxic waste sites (1987 Executive Summary, pp. xiii, xiv).

- A 1990 Greenpeace report found that the portion of persons of color in communities with existing hazardous waste incinerators is 89% higher than the national average. Communities where incinerators are proposed have persons of color populations 60% higher than the national average (Costner & Thornton 1990, p. 49).

- The National Law Journal examined every US environmental lawsuit for seven years previous and reported in 1992 that pollution violators in minority communities were penalized less than violators in white neighborhoods. The journal also studied every Superfund toxic waste site in residential areas and reported that the government is slower to act on problems in minority communities and apt to impose more lenient clean-up plans than consulting scientists suggest (Lavelle & Coyle, 1992).

Besides those cited above, there are dozens of studies that are more local in nature. Scholars in various disciplines have been researching the issue for over a decade, building on what grassroots activists already knew about the effects of environmental discrimination: that the implementation of federal environmental laws has not historically

provided equal protection to all citizens and that minority and low-income populations are more vulnerable than others to health threats from environmental pollution.

According to Robert D. Bullard, Director of the Environmental Justice Research Center at Clark University, Atlanta, Georgia, "Some communities have been turned into 'human sacrifice zones'...[these communities] share two common characteristics:

1) they already have more than their share of environmental problems and polluting industries; and

2) they are still attracting new polluters.

"Past discriminatory facility-siting and land-use practices appear to guide future policy decisions (1993, p. 12)."

The poor and people of color (African Americans, Latino Americans, Asian Americans, Pacific Islanders and Native Americans), precisely because they are economically and politically disempowered, are particularly vulnerable to environmental and health threats. However, Bullard, who has spent more than 15 years researching environmental issues and is a leading expert in the field, contends that

"Environmental inequities cannot be reduced solely to class factors...Race continues to be a potent predictor of where people live, which communities get dumped on, and which are spared. Racial bias creates and perpetuates unequal environmental quality...

"Chronic unemployment, poverty, and the lack of a sound economic infrastructure all place communities of color at (greater) risk from polluting industries which exploit this economic vulnerability (1993, pp. 11-12)."

The growing body of evidence that race and class biases determine environmental inequities, with race being the more potent factor (Bullard, 1993), plus pressure from activists across the country focused President Clinton on the issue of environmental justice soon after he took office in 1993. In 1994, in Executive Order 12898, the President called for all Federal agencies to make achieving environmental justice part of their missions by "identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations..." and to develop their own environmental justice strategies. According to the Order, these strategies must:

1) promote enforcement of all health and environmental statutes in areas with minority populations and low-income populations;

2) ensure greater public participation;

3) improve research and data collection relating to the health of and environment of minority populations and low-income populations; and

4) identify differential patterns of consumption of natural resources among minority populations and low-income populations...(Clinton 1994, Sec. 1-1, 1-103a).

Within the context of environmental justice as mandated by Clinton's Executive Order, the Army's choice of incineration is a clear example of the imposition by a federal agency of

"disproportionately high and adverse human health or environmental effects...on minority and low-income populations." At six out of the nine sites there is a greater percentage of minorities and/or people living below the poverty level in the affected population than the national average and the sites have a history of being the homes of polluting industries. These sites are:

1) Anniston Army Depot in Alabama;

2) Pine Bluff Arsenal in Arkansas;

3) Pueblo Army Depot in Colorado;

4) Umatilla Depot Activity in Oregon;

5) Tooele Army Depot in Utah; and

6) Johnston Atoll Chemical Agent Disposal System, in the Pacific.

Although there is evidence that racial and economic discrimination was involved in the original siting of some of these facilities, determining whether there was discrimination in the siting, or whether the communities became minority and low-income after the siting, is beyond the scope of this paper. Whatever the reasons for siting, the military installations eventually render their host communities economically dependent, making it difficult for residents to voice concerns about military activities, projects and pollution. When residents have voiced their concerns, they have been ignored because since World War II, the military-industrial complex has become so powerful that public protests about discriminatory military decisions have little effect on federal policy makers. This type of environmental discrimination has been an issue in military decisions and actions related to the development, testing and disposal of chemical weapons just as it has in nuclear military testing.

The Army's decision in the 1980s to use incineration as the baseline technology for destruction of its stockpiled chemical weapons was made without public input from the affected communities. And despite Clinton's 1994 call for Federal agencies to make environmental justice part of their mission and to develop strategies for greater public participation, the Army has refused to move from its decision to incinerate in the face of wide-spread opposition from minority and low-income populations at these sites. Opposition in these communities centers around concerns for the health and safety risks that are inherent in the incineration process. Although the Army claims that incineration is a safe and appropriate technology, its risk assessments for incineration have been proven to be flawed (Harrison, 1996) and the problems that have occurred at the Johnston Atoll Chemical Agent Disposal System, the Army's pilot incineration site, affirm the validity of citizen concerns for their health and safety.

Even though the affected citizens had no knowledge of, nor did they approve, the storage of these deadly weapons in their communities, they are now willing to have the weapons destroyed in their own backyards rather than having them transported to someone else's backyard. However, they feel that in the name of environmental justice it is incumbent upon the Army to implement the most benign technology possible in their communities. It is a fact that technologies more benign than incineration do exist. The decision to incinerate chemical weapons in these already polluted communities breeches Clinton's mandate for environmental justice.

1) ANNISTON, ALABAMA

> "The people are dying. Even the houses are dying."
>
> --80 year old African-American resident of Anniston
> while observing the bulldozing of houses in his neighborhood
> as a result of PCB contamination caused by Monsanto Company

Anniston, Calhoun County, Alabama lies in the southern Appalachians in the east central portion of the state approximately 60 miles east of Birmingham and 90 miles west of Atlanta, Georgia. The city was founded as an iron and pipe company town. It still exhibits many of the characteristics of southern cities born during the Jim Crow years of strict racial segregation. Clear demarcation lines separate the races in residential areas, social relations and political participation.

The African-American population of the state is 25%. Anniston has a population of 26,623, 44% of which is African-American. Anniston's percentage of African Americans is 267% higher than the national average of 12%. Calhoun County has a population of 116,034--19% African-American. Many Anniston citizens--24%--live below the poverty level, almost twice as high as the national average of 13.2% (Bureau of the Census, 1990). The Anniston Army Depot (ANAD), the site of a proposed incinerator, is situated 3.7 miles west of the city, close to the African-American west side. One small African-American town, Hobson City, is near the depot. Pockets of poor whites and working class people, many employed by ANAD, also live very near the depot in Bynum, Eastaboga and other small communities. Fifteen miles south of ANAD is Talladega whose population is 41% African-American. Residents of that area have not participated in the incinerator discussions to any extent (Bradbury, et. al. 1994, Appendix B).

Anniston and the surrounding area first encountered the military in 1917 when Camp McClellan was built north of the town. During World War II, the camp was upgraded to fort status, grew to dominate the region and created an economically dependent relationship. A second facility, ANAD, was established in 1941 as an ammunition storage facility. After the war it expanded, adding new military tasks such as tank rebuilding and contract industrial work. In 1963, the Army began to maintain a store of chemical weapons--VX, GB and mustard gas. Although the Army decided to incinerate on-site in 1988, the sky-rocketing costs of the current incineration program are resurrecting the issue of transportation to regional sites. The most likely eastern regional site would be Anniston or Pine Bluff, Arkansas (Pace, 1995).

In Anniston, local officials promoted the Army's incineration decision to the public, claiming patriotic duty and economic need. However, they did not fully inform the residents of the hazards of working or living near an incineration facility. Jobs were promised without disclosing that many high tech jobs would go to outsiders. The right to safe and clean jobs was not addressed. Any challenge to the Army or their local supporters elicited cries of unpatriotic sentiment.

The people living in the region have been significantly and disproportionately impacted by pollution from local industries and the military. For example, preliminary information from the Toxics Release Inventory National Report released by the Department of Defense (DOD), shows ANAD as second in the nation (after number one--Pine Bluff Arsenal in Arkansas) for toxic releases--548,073 pounds in 1994. Reported chemicals included zinc compounds, hexachoroethane, 1,1,1-Trichloroethane, chlorine and others (DOD, 1996).

In addition, communities such as Cobbtown and Sweet Valley, two local African-American neighborhoods, have been contaminated by PCBs. One resident of the area whose blood was tested for PCBs found that she had an extremely elevated level of 240.0 mcg/l. Expected average levels should be less than 3 mcg/l to 20.0 mcg/l (Alabama Dept. of Public Health, 1996).

Currently, Monsanto Company, which has been in Anniston since 1939, is trying to buy out the surrounding toxic land on which Cobbtown and Sweet Valley are located. Citizens from these communities have initiated a lawsuit against Monsanto for life-long health monitoring and damages. Pollution by the old iron foundries, other industries and ANAD combine to create multiple and cumulative exposures that already threaten and harm human health.

Furthermore, in Anniston the Citizens Advisory Commission (CAC), appointed by the state's governor, does not serve as the conduit for community concerns. For example, in January 1995, the local community group, SAFE (Serving Alabama's Future Environment) hosted Steve Jones, the Tooele, Utah safety inspection officer, who blew the whistle on the Tooele plant for safety and operational violations. The Anniston CAC agreed to feature Jones at their January meeting. However, the acting chair unilaterally decided to cancel Jones' appearance despite citizens' demands that he be allowed to speak. The Anniston CAC is establishing a pattern of denying incinerator opponents a chance to make their cases.

2) PINE BLUFF, ARKANSAS

> "We'd like to ask President Clinton to take a look at the discriminatory way his military is dealing with hazardous waste in his own backyard. Toxic chemicals, unlike government agencies, recognize no color lines. The burning of chemical weapons in central Arkansas will affect people of all colors."
>
> --Brainard Bivens
> African-American resident of Pine Bluff
> 1995

Pine Bluff, Jefferson County, Arkansas, is located in another economically depressed southern state; a region once marked by plantation slavery and now a rice and poultry producing and processing area. Most of Jefferson County's 85,487 people--43% African-American, reside in the city of Pine Bluff--53% African-American. The Pine Bluff percentage of African Americans is 341% higher than the national average. Jefferson County is also very poor, with 24% of its population living below the poverty level. In Pine Bluff, 28% of the residents live below the poverty level (Bureau of the Census, 1990). Institutional racism, a history of discrimination, class inequities and multiple and cumulative exposures to toxics exist here as in Alabama.

The Pine Bluff Arsenal, built in 1942 during World War II, was designed to make smoke and incendiary weapons. It also operated as a storage facility. During the Korean War, biological weapons were built until the late 1960s when the Nixon administration halted production. In 1987, Pine Bluff arsenal began to produce binary chemical weapons briefly until the US-Russia treaty on chemical weapons reduction prohibited their production. Moreover, incineration of another chemical--BZ--was carried out at the arsenal between 1988 and 1990. Pine Bluff, Arkansas is now faced with the prospect of an incinerator meant to destroy 12% of the nation's chemical weapons, the second largest stockpile in the country (Bradbury, et al. 1994, Appendix E).

Although the Army presented its plans to the Pine Bluff community for BZ disposal and for incineration of the remaining stockpile, most residents, especially African Americans, do not believe they were seriously included in the planning despite the Army's public relations efforts. In fact, during Scoping Meetings, Army officials primarily dealt with leaders of White Hall, Arkansas, a smaller community near the Arsenal which is 94% white. African-American residents in Pine Bluff, such as Dr. Abdullah Muhammad, Brainard Bivens, Evelyn Yates and Angela Dooley, believe the decision was made primarily by outsiders with the cooperation of a few white officials and the public relations effort was designed to give the false impression of democratic participation (Bradbury, et al. 1994, Appendix E).

As in Anniston, Pine Bluff is mired in an economically dependent relationship to the military. To oppose the Army's incineration plans is to risk threats of potential job loss and accusations of lack of patriotism.

> "In the past it has been hard to get people to talk about the chemical weapons in Pine Bluff. Many people in this area are employed by the Pine Bluff Arsenal and fear that without incineration there will be no jobs...Our community has already suffered enough from contamination and environmental injustice."
>
> --Evelyn Yates
> African-American resident of Pine Bluff
> 1995

The Toxics Release Inventory National Report lists Pine Bluff Arsenal as releasing 721,364 pounds of chemicals into the air, water and land. The Pine Bluff Arsenal is listed as the top polluter in the DOD report. Other regional polluters include International Paper which in 1993 released 1,000 pounds of chlorine, 21,005 pounds of chlorine dioxide and 69,000 pounds of chloroform, to name just a few. Central Moloney Transformer Division released 10,263 pounds of ethylbenzene, 25,196 pounds of toluene and 110, 259 pounds of tetrachloroethylene in 1993. Century Tube released 500 pounds of zinc, 22,250 pounds of xylene and 32,250 pounds of toluene in 1993 (DOD, 1996).

Cumulative toxics are detrimental to the health of the people and to the agricultural industry in the area. Russia recently halted imports of US poultry due to concerns about heavy metals and salmonella (Democrat-Gazette, 1996). Further pollution due to incineration of nerve gas will only compound existing problems.

Pine Bluff has a disproportionate share of lethal military materiel produced, stored and destroyed there. And the pattern continues. Recently, the Army announced that it would transport old, deteriorating World War II-era mustard gas bombs from Raritan, New Jersey to Pine Bluff by-passing closer depots, despite previous promises by the Army not to ship chemical weapons.

3) PUEBLO, COLORADO

The Pueblo Army Depot, which began as an ammunition storage and supply site in 1942, is located east of Pueblo, Colorado, a city with a population of 98,640--40% Latino-American--in the county of Pueblo with a population of 123,051. The communities closest to the Depot are North Avondale, Avondale and Boone, all of which have been declining as the depot has reduced employment. The two more populous communities--North Avondale and Avondale--have a population of 2,350--37% Latino-American. Boone, an incorporated city, has just 338 residents--43% Latino-American, with an additional influx of approximately 1,000 migrant workers each spring and summer, nearly all of whom are Latino Americans from Texas and the Mexican border region. Significantly, all of the communities have a high percentage of Latino Americans--four to five times that of the US national average of 8.81% (Bureau of the Census, 1990; Bradbury, et al. 1994, Appendix F), who have been victims of pollution historically.

Poverty exists at high levels in Pueblo County compared to the US national average of 13.12%. About 20% of Pueblo County citizens live below the poverty level (Bureau of the Census, 1990). Many of the poor are Latino Americans, including the transient population of migrant farm workers. These people often rely on fishing for a significant food source, a source very susceptible to pollutants from industry and military toxics.

The history of the depot is one of boom and bust. In 1942 the US Army Corps of Engineers built the depot on cattle grazing land. Following World War II, in 1948, the depot added to its duties maintenance and overhaul of artillery, renovation and demilitarization of ammunition, among other things. However, since the Korean War employment has continually decreased despite some activity during Desert Storm. In the early 1970s nearly 3,000 people worked at the depot. In 1988 the depot was scheduled to close and by 1990 the number of employees had dropped to 598. In 1994 the employees numbered only about 200, kept to maintain the chemical weapons. The community must deal with a stockpile which makes the potential for base re-use difficult and with a disposal technology that is unsafe and unhealthy. The depot site is also contaminated by a landfill made up of destroyed mustard gas bombs, an industrial disposal ditch, TNT pollutants and buried non-stockpile chemical weapons. Ground water has already been contaminated by some of these sources and remediation is in the works. Portions of the depot should be added to the Superfund National Priorities List because they are so polluted that they need immediate clean-up. Historically, since World War II, the people of this region have been subject to dangerous pollutants and continue to be threatened (Bradbury, et al. 1994, Appendix F).

The region surrounding the Pueblo Army Depot is a rural prairie cut through by the Arkansas River, which is used for agricultural irrigation for such crops as vegetables, melons, winter wheat, corn, sorghum, beans and hay. Farming constitutes about 30% of the regional income and cattle ranching produces 70% (Bradbury, et al. 1994, Appendix F). The foods and animals raised in the area will be negatively affected by the emissions of toxins from the incinerators' stack. Because pollutants such as dioxins accumulate as they progress through the food chain, both Coloradans near the incinerator and people anywhere who consume these foods will suffer harm. The agricultural workers, including the migrant laborers, will be doubly at risk as they work the fields and eat the foods.

4) TOOELE, UTAH

> "Throughout the Cold War, one corner of Earth was bombarded with nerve gas, germ warfare, nuclear fallout and other radioactive dust - spread to the winds by bombs, airplanes, artillery and even intentional nuclear reactor meltdowns. It was Utah."
>
> --Lee Davidson
> Washington Correspondent
> Deseret News, December 22, 1994

The Tooele Army Depot (TEAD) lies about 35 miles southwest of Salt Lake City in northwest Utah in Tooele County. The depot is actually located in two sections--TEAD North and TEAD South--about 15 miles apart and situated between the Oquirrh Mountains and the Stansbury Mountains. The chemical weapons storage site, the Chemical Agent Munitions Disposal System (CAMDS), and the new Tooele Chemical Demilitarization Facility (TOCDF), the incinerator complex, are at TEAD South. Another military installation in the county is Dugway Proving Ground, first established in 1942 for the testing of chemical weapons and currently contaminated from various chemical agents, non-stockpile munitions and biological weapons (Bradbury, et al. 1994, Appendix G)

On August 24, 1996, TOCDF was fired up to burn nerve agent for the first time. Within 72 hours of the start-up, the facility had to be shut down due to a nerve agent leak. Two weeks later the facility was again shut down when decontamination liquid seeped through a concrete floor into an electrical equipment room. With these kinds of flaws in the design of TOCDF, there is a possiblity of a serious accident involving the release of nerve agent. Prior to the start-up, a preliminary injunction was brought against the Army by the Chemical Weapons Working Group to try to stop the burning of agent. At that hearing Army experts testified that these kinds of start-up problems were not going to happen because of the lessons learned from operating a prototype facility on Johnston Atoll in the Pacific. The judge ruled against the injunction on the basis of the Army's "expert" testimony.

In the region near the sites, 70% of the population live in either Tooele, a city of 13,887 people, or Grantsville, a town of 4,500. Grantsville's percentage of Native-American population is 151% higher than the national average of 0.81%. The small towns of Stockton, Rush Valley and Ophir are closest to the incinerator--within a 3-15-mile radius. Stockton's percentage of Native Americans is 170% higher than the national average. The Skull Valley Indian Reservation is located approximately 15 miles west of TEAD South and the reservation is the burial site for sheep that were poisoned by chemical weapons experiments at Dugway in the 60s. Latino Americans, most of whom live in the cities of Tooele and Stockton, make up about 11.30% of the population in Tooele County, a figure higher than the national average (Bureau of the Census, 1990; Bradbury, et al. 1994, Appendix G).

Mormons, who make up a large percentage of the population in Tooele County, face disproportionate risk because of the food consumption patterns mandated by the doctrines of The Church of Jesus Christ of Latter-day Saints. According to Mormon teachings, "There are blessings in being close to the soil, in raising your own food, even if it is only a garden in your yard and a fruit tree or two (Benson 1974, p. 269)." The head of Mormon household is enjoined to ..."see to it that he has on hand enough food...for at least a year ahead...Let every man who has a garden spot, garden it; every man who owns a farm, farm it (Clark 1937, p. 26)." Mormons who put by their own food are at disproportionate risk to danger from air pollution introduced into the food chain.

In Tooele County, 11.46% live below the poverty level, lower than the 13.12% national average (Bureau of the Census, 1990). The main employers in the region since World War II have been Dugway (1994 employment--1200) and the depot which provided employment for 45% of the county's labor force prior to realignment which began in 1993. An estimated 1,900 jobs may be lost once realignment is completed (Bradbury, et al. 1994, Appendix G). These communities, like Anniston and Pine Bluff, have been economically dependent upon the military for years and very reluctant to criticize Army plans (Ward, Interview 1995).

Past exposure to low levels of nerve agent has occurred and seriously compromises the public's health. During the 1950s through the 1970s, the equivalent of 2.5 trillion doses--494,700 pounds--of nerve gas was released into the air at Dugway Proving Grounds in experiments and tests. During these years, 1,174 open-air test firings of munitions filled with nerve gas were conducted. On March 14, 1968, nerve agent was sprayed from an F-4 Phantom jet and resulted in the death of 6,000 sheep in Skull Valley. Citizens in the area were unaware of the extent of exposure they had experienced. But, they are living lives characterized by poor health (Ward, 1996).

Ray Peck is one of those citizens. On the evening when the nerve agent was sprayed, Peck, then an employee of Dugway, was working on a tractor 25 miles downwind. The next morning he ate some of the snow that had fallen during the night because it was so beautiful. It is believed that Peck and other residents were exposed to small amounts of the agent VX. Since that time Peck and his family have suffered long-term illnesses including violent headaches, numbness and paranoia. Peck reports that after the exposure he experienced "bouts of paranoia" where he became terrified and fearful of making mistakes in his job at Dugway and in the mechanical and upholstery work he had done for years. He also has had "nasty" headaches which doctors have not been able to explain. Peck's wife had three problem pregnancies after the exposure and his daughters have had problems with miscarriages. Because Peck was worried about being seen as unpatriotic or a disgruntled worker at Dugway if he said anything about his symptoms and what he believed caused them, he kept quiet (Davidson, 1993).

The Army has never conceded that nerve agent was responsible for the sheep kill but it paid $1 million in damages to ranchers. Nor has the Army admitted that residents could have been affected.

Exposure to nerve agent is only one danger that has been imposed on Utah by the military. Utahns have been exposed to radiation from nuclear devices that were exploded in Nevada only when the winds were blowing toward Utah and not toward Las Vegas, Los Angeles or other more populous areas. In addition, Dugway was the site of at least 20 open-air, non-nuclear explosions to test the spread of radioactive dust. Between 1949 and 1963, the total radiation released in Utah was 10,000 times more than the Three Mile Island nuclear accident. More than 328 open-air germ warfare tests were conducted at Dugway with bacteria for parrot fever, Q fever, the plague, tularemia, brucellosis, botulism and anthrax (Deseret News 1994, December 23, p. A8).

"The whole story of experiments with exotic and chilling weapons and methods of warfare leaves Utahns with a sense of betrayal. It is going to take a lot more than reassuring words to win back their trust."

--Deseret News
Editorial
December 23, 1994

Tooele County is home to other non-military hazardous industries which some residents believe have affected their health and which threaten to give the region a reputation as a hazardous waste mecca. During 1988, a 100 square mile part of the West Desert was set aside as the West Desert Hazardous Industry Area. Three hazardous waste companies have set up operations since then. A low-level radioactive waste disposal facility is owned by Envirocare. Two hazardous waste incinerators, one run by Aptus and the other by United States Pollution Control, Inc., are currently burning (Bradbury, et al. 1994, Appendix G). The operations of Magnesium Corporation, known as MagCorp or AMAX - identified as the number one toxic air polluter in the US - annually spews 25 tons of chlorine and approximately two tons of hydrochloric acid into the air of Tooele County.

"Stories about working conditions at MagCorp are legion and employees have invented their own lingo to describe various levels of pollution. 'The air is green today' illustrates a day of moderate chlorine inundation, but 'the bees are out' means that the air is so saturated that it stings the skin. They say there is no wildlife, or even insects of any kind around the facility, and talk of ducks falling out of the sky when they hit the clouds surrounding the area. Car paint is quickly destroyed by the airborne chemicals, so employees drive clunkers, surrendering any pretensions of automotive aesthetics. Local beauticians say that 'MagCorp hair' is easily recognizable, far beyond the extremes of green swimming pool hair. Less cosmetic is the lung damage that many workers claim they have suffered from working at the magnesium plant."

--Diane Olson Rutter
Catalyst, April, 1996

The EPA reported in 1987 that 88% of Utah's toxic air pollution originated in Tooele County (Bradbury, et al. 1994, Appendix G). The area has been disproportionately affected by the military and polluting industries since World War II, resulting in significant health problems, destruction of the environment and environmental injustice.

5) UMATILLA, OREGON

"Our Tribal Government has identified serious problems with the chemical weapons incineration proposal that the US Army has proposed for the Umatilla Army Depot. These problems place the people, resources and economy of all northeastern Oregon at grave risk, including the people, resources and economy of the Confederated Tribes of the Umatilla Indian Reservation...

"Incinerators are not a fail-safe operation. They can, and do, fail. And their failure can have catastrophic impacts. A mere speck of the nerve agent VX will kill you if it touches your skin. Even smaller quantities of the gas GB will kill instantly. Yet the Army acts as if they pose no practical risk...

"And the Army has failed to consider the threat to the Umatilla Indian Reservation. Their plans use models that assume the earth is flat. They don't consider the topography of this region or the air patterns that occur near the foothills of the Blue Mountains, where our Reservation and the City of Pendleton are located...The Umatilla Reservation is located a mere 30 miles directly downwind from the Army's proposed incinerators. Under some conditions, nerve gas released at the depot could reach us in less than an hour...

"In addition, the Umatilla Army Depot is located within our Tribes ceded lands, an area within which our tribal members retain treaty rights, including the right to fish and to gather plants and medicines. Resources, such as our Wanaket Wildlife Refuge, located a few miles east of the town of Umatilla, are directly threatened by the incinerators...the Army has failed to consult with us on a government-to-government basis about its incinerator plans...This is unacceptable. The Army cannot pretend to protect us if it remains ignorant of what our interests are."

--Donald Sampson
Chairman, Board of Trustees
Confederated Tribes of the Umatilla Indian Reservation
Statement, 1996

The Umatilla Depot Activity (UMDA), Oregon is on land that the Confederated Tribes of the Umatilla Indian Reservation ceded in 1855 to the United States. It occupies parts of Morrow and Umatilla Counties in the northeast portion of the state in an area that is largely rural with wheat, cattle and potatoes as the major farm products. Watermelons from Hermiston, a town of 10,000 about five miles from the Depot, and new products such as mint, buffalo and llamas are important to the economy. The Columbia River supplies the region with water and supports fish and wildlife. Overall in the region, aridity is a factor and crucial ground water is being depleted (Bradbury, et al. 1994, Appendix H).

The two counties of Umatilla and Morrow have a population of approximately 68,000. Umatilla is the most populous with close to 60,000 residents. A significant percentage of the population of both counties lives below the poverty level--16.5% in Umatilla and 15% in Morrow. These percentages are above the 12.4% average in the state and the national average of 13.12%. Latino Americans, most of whom moved to the area since 1980, make up 9% of Umatilla County's population and 11% of Morrow County's population, which is significantly higher than the state average of 4%. The percentage of Native Americans is 305% higher than the national average in Umatilla County, 90% higher in Hermiston and 47% higher in Morrow County (Bureau of the Census, 1990; Bradbury, et al. 1994,

Appendix H). Low-income people and people of color that have been historically affected by pollution exist in the region in greater proportions than in the rest of the state.

In 1940-41, as part of the preparations for war around the country, UMDA was built as a storage and transshipment installation for conventional munitions. Not until the 1960s did chemical weapons begin to be stored there. About 600 employees worked at the depot during the 1970s and 1980s until the Base Realignment and Closure Commission decided to close UMDA. By 1993, only 200 workers were left. The conventional weapons mission will end in 1994 and employment will decrease further. The community is planning re-use and the Confederated Tribes of the Umatilla Indian Reservation are asking that lands be given to the Department of the Interior for the use of the tribe (Bradbury, et al., 1994, Appendix H).

UMDA is in the process of cleaning up two sites and planning to clean nine others. Citizens attended public meetings held in February 1994 to be apprised of the plans. People in this region are familiar with military toxics and hazards since Hanford, a nuclear site, is only 40 miles to the north. Hanford has a bad reputation for radioactive releases in the past. Transportation of hazardous waste occurs through the region regularly and the Confederated Tribes worry about the shipments that travel through their lands. UMDA stores about 12% of the US stockpile of chemical agent in projectiles, M55 rockets and bulk containers brought in during the 1960s, adding to the region's hazardous materials (Bradbury et al. 1994, Appendix H).

In Oregon, as in many other states, the military has been an important employer, making people reluctant to challenge Army plans. The military and local officials also emphasize the need for patriotic sacrifice when people question the incinerator, and accuse opponents of disloyalty when they criticize the project.

Since members of the Confederated Tribes fish and gather plants and medicine in the affected area, requirements of the President's Executive Order, concerning consumption patterns of fish and wild life, must be implemented. Information must be collected and analyzed regarding the "consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. Federal agencies shall communicate to the public the risks of those consumption patterns (Clinton 1994, Sec. 4-4, 4-401)." And, if the contamination of these food sources is already too high, no new polluting facilities should be permitted.

> "The ancestral home of my people--the Cayuse, Umatilla and Walla Walla Indians is northeastern Oregon and southeastern Washington. The Umatilla Indian Reservation is located on these lands. There is no other Umatilla Indian Reservation. If it is destroyed or made unlivable by the federal government's toxic incinerator experiment, there is no other home for our people...
>
> "The Department of Environmental Quality is prepared to approve the Army's incinerator plans..even though the Army has never shown that the incinerators are a safer or better way to destroy these chemicals than other technologies...And they are ready to approve the incinerators even though the Army has completely failed in its moral and legal duty to coordinate with our Tribal government concerning the Army's incinerator plans."
>
> --Armand Minthorn
> Member, Board of Trustees
> Confederated Tribes of the Umatilla Indian Reservation
> Statement, 1996

6) KALAMA ATOLL, THE PACIFIC

Kalama Atoll (called Johnston Atoll by the Army) is a special case of intense, long-term hazardous abuse. The entire Pacific has historically been an expendable zone for the US military and continues to be with the construction and operation of the Johnston Atoll Chemical Agent Disposal System (JACADS).

During World War II, Kalama Atoll was one of the busiest military airport terminals in the Pacific theatre. In the late 1950s and early 60s, the islands were used for nuclear tests and anti-satellite missile tests. The first nuclear bombs to be exploded in the stratosphere by the US were off Kalama in 1958. In 1962 two Thor missiles burst into flames on the launch pad scattering plutonium all over the atoll and into the sea. Plutonium clean-up of contaminated soils is expected to cost $15 million. In addition, there is an undetermined amount of plutonium in the lagoon (Alailima, 1995).

In 1971, 41 acres of land on the southwest shore of Kalama Atoll were set aside for use by the Army as a chemical agent and munitions storage area. In that same year the chemical weapons stockpile from Okinawa, Japan (Operation Red Hat), was moved to Kalama (Alailima, 1995). The original plans to move the weapons to Umatilla Army Depot in Oregon were scrapped due to public opposition and political pressure. Congressional legislation was passed (PL 91-672) which prohibited the transfer of nerve agent, mustard agent, agent orange and other chemical munitions to the 50 US states.

Early in 1972, 22,000 55-gallon drums of agent orange were moved from Vietnam to Kalama. These drums were removed from the atoll in 1977 and incinerated at sea aboard the Dutch ship Vulcanus. However, due to spills and leaks an estimated 250,000 lbs. of the agent have contaminated the underlying soils. Surface water is believed to be transporting these contaminants off site affecting near-shore sediments and lagoon fish. In February 1986, the Fish and Wildlife Service identified Kalama as one of one of 10 national wildlife refuges in the US needing immediate cleanup (Alailima, Nerve Gas 1996).

Kalama Atoll has been subjected to over 60 years of continuous US military occupation and administration. It has been used for all kinds of military activities, including biological warfare studies, nuclear testing, missile testing, anti-satellite weapon deployment and chemical weapons. With the past still very much present in the minds of many Pacific Islanders, it was not surprising that the military's announcement to build an incinerator at Kalama in the early 1980s triggered widespread opposition. Despite this opposition from Pacific Islanders, the Army was awarded a ten-year permit to construct and run the system in 1985. Construction of JACADS began in 1987. Pacific outrage came to a head in 1989 with the US announcement that 100,000 munitions would be transported from Germany to Kalama. Pacific nations felt betrayed by the move because, according to the Army's 1983 Final Environmental Impact Statement (FEIS) there was to be no additional transportation of chemical weapons to JACADS (Alailima, Nerve Gas 1996)

As a prototype for incinerators to be built in the continental US, JACADS has been a poor model. It has functioned less than 50% of its scheduled operating time since operation of the facility began. Plant shut downs for long periods of time have been a result of countless problems, including three live nerve agent releases, explosions and fires in the furnace kilns, equipment failures and parts melt down. In March 1995, the EPA fined JACADS $122,300 for three violations of its federal hazardous waste permit including the release of nerve agent which exceeded allowable limits (Common Sense, 1995). The concerns of Pacific Islanders seem confirmed.

There is a widespread belief among Pacific Islanders that the US continues to cling to an outmoded view of the Pacific Ocean as a vast, empty region where hazardous materials can be disposed of without serious consequences to people and environment. It is a view entirely at odds with the growing social, political and economic realities of today's world as well as with the current understanding of how the ocean environment serves to unite rather than separate us. These emerging perceptions confirm the indigenous perspective of the Pacific Ocean as a life-giving force. Physical events in any one place in the Pacific, however remote, potentially affect lands and peoples thousands of miles away. What happens on Kalama Atoll has the potential to affect Hawai'i, 717 miles away and has a greater potential to affect the 50,000 residents of the Marshall Islands which are downwind from the incinerator. The ocean waters are in constant motion and are subject to winds and currents circulating throughout the Pacific. The near surface microlayers of the marine waters are rich with biogenic materials that serve as a food source for many commercially important fish and shellfish. Contamination of the Pacific waters threatens the well-being of the indigenous peoples who live closest to it and depend upon on it for food and economic sustenance (Otaguro, 1991). Emissions of dioxins, heavy metals and other contaminants from the nerve gas incinerators concentrate in the sea surface microlayer and have a detrimental effect upon the populations of dependent species, particularly on the highly migratory marine life. It is a catastrophe which will take place slowly over time and is likely to be ignored until too late (Alailima, 1995).

Kalama Atoll, the Pacific Islands and the US state of Hawai'i constitute a part of the world populated by indigenous peoples who have been colonized, experimented with and dumped on since the 19th century. European nations began this process and the US and other nations, most notably France with its most recent nuclear testing, continue destroying the environment and people of the Pacific. Clearly, environmental injustice has been an historic phenomenon in this part of the world and continues to be. Despite protests from the Pacific Forum (representing fifteen Pacific Island nations, including Australia and New Zealand), the Pacific Asia Council of Indigenous Peoples, the Pacific Council of Churches, the Pacific Island Association of Non-Governmental Organizations and many other groups and organizations, the Army continues its flawed operations at JACADS. It is incumbent upon the US to apply all its environmental laws to Kalama Atoll, which is often exempted because it is not a state. President Clinton's Executive Order directing federal agencies to take on environmental justice issues must be applied to Kalama.

"Pacific Islanders need to bridge not only the economic and racial divide in environmental injustice, but to extend across a cultural-cosmological and political divide as well. We are an ocean people. We see her differently. The ocean is the great connector rather than divider of us. She is the amniotic fluid from which all life is birthed, not the cesspool for humanity. She is as sacred as land, sky, air and all living creatures.

"Environmental safety standards and participation practices are applied only within US territorial limits. Thus, Pacific Islanders beyond US jurisdictional boundaries, although affected by polluting activities, are not consulted prior to potentially devastating conduct. We suffer environmental injustice at an international level without any adequate forum of appeal."

--Poka Laenui
President
Pacific Asia Council of Indigenous Peoples

IV

The Choice of Incineration and the EPA

Early in her tenure as Administrator of the EPA, Carol Browner designated the pursuit of environmental justice as one of the Agency's top priorities (EPA, Office of Solid Waste and Emergency Response [OSWER], 1994). According to the EPA, "Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no groups of people, including racial, ethnic, or socioeconomic groups. should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies (EPA, Guidance, 1996)."

In accordance with the EPA's priority for ensuring environmental justice, two specific goals were developed by the agency-wide Environmental Justice Task Force.

1) Achieve environmental protection for all, so that no segment of the population, regardless of race, national origin or income, bears disproportionately high and adverse effects of environmental pollution and that all peoples benefit from clean and sustainable communities.

2) Educate and empower affected communities, community and other nonprofit organizations, federal agencies, tribal, state and local governments, academic institutions, business and industry to ensure early participation in environmental issues, form partnerships to achieve environmental justice and to help promote sustainable communities (EPA/OSWER, 1994).

Given the toxic history of the five incinerator sites discussed above and the lack of input from the affected communities in the decision to incinerate, the Army's choice of incineration violates the EPA's tenets of environmental justice, especially in light of the new "combustion strategy" for incineration of hazardous waste initiated by Browner which requires comprehensive multi-pathway risk assessments prior to permitting hazardous waste incinerators or renewing permits. These multi-pathway assessments are to address dioxin-like and other toxic emissions (EPA, Combustion Strategy, 1994). The Army constructed JACADS and burned chemical weapons there for six years before a first draft of a risk assessment was completed. The incinerator facility at Tooele, Utah was constructed and trial burns carried out in the absence of a risk assessment. The final draft of the assessment for Tooele was completed in 1996 and although the Army claims that the assessment meets EPA requirements, subsistence farmers and nursing infants were omitted from the assessment. Multi-pathway assessments have not been completed for the Arkansas and Colorado sites.

Within the EPA's framework for environmental justice, ***no*** groups of people should be disproportionately affected by toxic conditions. Two additional sites that are slated for incineration by the Army, although they do not have a high percentage of people of color or low-income populations, have a long history of being ravaged by polluting industries and are examples of environmental injustice within this framework. They are:

7) Aberdeen Proving Ground in Maryland; and

8) Newport Army Ammunition Plant in Indiana;

7) ABERDEEN, MARYLAND

Aberdeen Proving Ground and Edgewood Arsenal, Maryland, located 21 miles northeast of Baltimore, lie in one of the most populous regions of the country in the megalopolis corridor that stretches from Washington, DC to New York City. Edgewood is located on Gunpowder Neck, a peninsula in the Chesapeake Bay between the Bush and Gunpowder Rivers. Of all eight continental sites, Aberdeen is the most heavily populated, with a population of more than 44,000. About one-third of the population resides in Kent County directly across the bay from the Edgewood and Aberdeen areas. The rest of the population lives in Baltimore County, Harford County or Cecil County. Pockets of poverty exist in the areas closest to the site (Bureau of the Census, 1990). Significantly, the entire region has experienced years of military and industrial pollution that affect the lives and health of the people (Chase, 1993).

During World War I, the site first known as the Gunpowder Reservation, produced and filled gas shells. It became Edgewood Arsenal in May, 1918 and fell under the control of the Ordinance Department until July when it became part of the new Chemical Warfare Service. Large quantities of chemical agent were produced at Edgewood during World War I. Afterwards, the agent plants ceased operations and switched to gas mask manufacturing. The site was the location of the Chemical Warfare School and research and development activities occurred there until World War II when it was re-designated the Army Chemical Center. Currently, Edgewood conducts research and development, testing and evaluation, procurement, production and mobilization planning of chemical materiel. Recent research successes on neutralization technologies occurred there.

Due to the many years of production and testing of chemical weapons, this site is contaminated with the various agents and is plagued with buried non-stockpile chemical weapons. For instance, 40 non-stockpile munitions, including sarin, mustard and phosgene were unearthed in 1994 and four of them were detonated in the open at J-Field just a few miles from the local population and boaters on the Chesapeake Bay (Richick, Interview, 1995)

If the incinerator is built at Aberdeen, it will be one more hazard among many already at the site. For example, the Nike Site, which was used for testing munitions, underwent a magnetometry sweep and over 10,000 hits of metal were detected in the 100 acres. Some of the hits are probably metal pieces contaminated with chemical agent, but others are unstable warheads. This site is 1500 feet from hundreds of homes, including low-income neighborhoods and less than a mile from three schools. Additionally, two ground water production wells and the Perryman wellfield, sources of public drinking water, are contaminated with trichloroethylene (TCE), a solvent and potential human carcinogen. The Army is currently cleaning the water at a treatment facility. As of 1994, Aberdeen Proving Ground was the largest Superfund site at any DOD facility in the US. According to

Aberdeen Proving Ground Superfund Citizens Coalition information, open air detonation and open burning of chemical, high explosive and incendiary munitions still continues (Aberdeen, 1995).

The Army's attempts to involve citizens in clean-up or the incineration program have been minimal. Only under pressure, did the Army in March 1995 announce hearings to inform 20,000 families in Harford and Baltimore counties about disposal of the buried chemical weapons. Because Aberdeen has nerve agent stored in ton containers and not in munitions, it has been chosen by the Army for research for alternative disposal technologies (Richick, Letter, 1995). In 1994 citizens opposed to incineration agreed to accept a prototype alternative facility, which reveals that opponents to incineration are willing to cooperate with Army if the weapons can be disposed of safely. Because the people are already living in an area disproportionately polluted by the military and private industry, their demands for neutralization technology are reasonable and environmentally just.

The state of Maryland, according to the US Census Cancer Mortality by State, has a higher rate of cancer than most of the country with a reported 193 deaths per 100,000. Only Delaware with 195 and the District of Columbia with 230 surpass Maryland (1994). All of them, however, are in the same small geographic region and near the Chesapeake Bay which is heavily polluted from the military and industry. Low-income people rely on food from the bay to supplement their diets. Thousands eat fish, crabs and snapping turtles regularly and thus ingest a higher level of toxins such as dioxin (Maryland CAC, 1994). An incinerator will emit dioxin and compound the problem. Historically, the residents of the region have been subjected to vast amounts of pollution and the results of this contamination are showing up in the statistics. It is environmentally discriminatory to expose these people to additional contaminants. Multiple and cumulative impacts of these toxics already adversely affect the health of humans and the environment.

8) NEWPORT, INDIANA

The Newport Army Ammunition Plant (NAAP) is located just south of Newport, Indiana in Vermilion County, population 16,773, a decrease of almost 1,500 from the 1980 census figures. The percentage of the population living below the poverty level has risen from 10.68% in 1980 to 11.67% in 1990, which is higher than the state average of 10.68%, but lower than the national average. The county is racially homogenous with a 99.45% white population. NAAP was established in 1942 to produce the explosive material RDX and heavy water. In 1959 the Army decided to make nerve agent VX there, and in 1961 production began. Pollution from these processes is currently a problem and dangerous to human health (Bureau of the Census, 1980, 1990; Bradbury, et al., 1994, Appendix D).

This region is rural and has other major polluters. An Eli Lily medical waste incinerator is located just north of Clinton, Indiana. Two Public Service Indiana electric generating plants, which primarily burn coal, are located approximately six miles and twenty miles away. Within a 40-mile radius of Newport are Crawfordville, Indiana, home to a steel plant and Terre Haute, a center for the plastics industry known for pollution by dioxins and other toxins. Citizens living in the vicinity of the Newport facility are already contending with enough pollution and should not be recipients of incineration technology when viable alternatives exist.

V

Incineration and Environmental Justice at the Bluegrass Army Depot

The 15,000 acres of the Bluegrass Army Depot (BGAD) lie between the beautiful rolling hills of the Bluegrass and the Appalachian Mountains in eastern Kentucky, just south of Richmond, Madison County. Similar to other installations, BGAD was established during World War II as a storage facility and began receiving chemical weapons in 1942. Its last nerve gas shipments arrived in 1962. The Army provided jobs which were badly needed in a region of Appalachia that chronically suffers from unemployment and underemployment (Davies, 1995).

The population of Madison County is approximately 57, 500, a large percentage of whom live within a 6.2-mile radius of the depot. The poverty rate is 21.21%, significantly higher than the national average and reflective of the historic poverty of Appalachia. Of Richmond's 21,155 residents, 31.65% live below the poverty level and in nearby Berea, 17.36% of its 9,126 residents live below the poverty level. Overall, the state of Kentucky has a 19.03% poverty rate (Bureau of the Census, 1990). Since the late 19th century, the residents of eastern Kentucky and Appalachia have been subjected to economic and environmental exploitation due to timber, coal mining and other industries. It has been, paradoxically, a land of rich natural resources with a poor, oppressed people.

The region is largely white. Madison County has about a 5% African-American population and Richmond a 10% population of African Americans (Bureau of the Census, 1990). However, it was an African-American community that suffered most in August 1979 when a smoke pot accident at the depot released a toxic cloud and caused 45 people to be hospitalized. The problem was compounded when the Army denied its culpability until later when it admitted the cloud originated from BGAD.

Although the affected communities of this ninth site are relatively free of toxic industries, there is a very high percentage of low-income residents--more than twice the national average in some communities--and it would be environmentally unjust to impose on the residents the environmental risks that come with incineration when there are safer technologies, which the Army has refused to consider. Local citizens in these communities have been very vocal and highly organized in their opposition to the Army's decision to incinerate but their protests have been ignored.

VI

Conclusions

1) In accordance with President Clinton's Executive Order, given the demographics and the toxic histories of the affected communities of Anniston, Pine Bluff, Umatilla, Pueblo, Tooele and Kalama Atoll, the Army's stockpiled chemical weapons should not be incinerated at these sites. If the Army is to take seriously the President's call for environmental justice with strategies for greater public participation, the Army must:

    - discontinue incineration at Kalama Atoll immediately and dismantle the JACADS facility;
    - discontinue incineration at Tooele immediately and reconfigure the facility for safer alternatives;
    - cut its losses and give up plans to incinerate at the other sites;
    - listen to the concerns of affected citizens and ensure true democratic participation by these citizens; and
    - find the safest and most appropriate technology possible for each site.

These are the Army's obligations. There is no room and no time for debate on the issue. The President's Order is clear.

"The discussion of environmental justice is *not* a philosophical debate, although we do need to question the philosophical ethos that allows a society to participate in its own destruction...[F]or us, the issue of environmental justice is an issue of life and death. In the South Side of Chicago, *our* children are dying. Some die in their mothers' wombs. In Louisiana's petrochemical corridor, "Cancer Alley", it is *our* children who are dying in record numbers. In New York City, it is *our* children who are poisoned by lead-based paint in old housing. In the Southwest and among farm workers, it is *our* children who suffer from pesticide poisoning. On Native American reservations, territories, and lands, it is *our* children who are victims of 'radiation colonialism.' And for Asian American and Latino American sisters and brothers who labor in Silicon Valley, it is *our* children who are dying."

--Benjamin F. Chavis, Jr.
Executive Director
National Association for the Advancement of Colored People
(Bullard 1994, preface, p. xii)

2) In accordance with the EPA's mission to ensure that no groups of people should bear a disproportionate share of negative environmental consequences, and given the fact that safer technologies do exist, the Army's chemical weapons should not be incinerated at any site. If the EPA, under Browner's direction, is serious about making environmental justice a top priority and fulfilling the President's order, the EPA must:

- immediately rescind the Army's permit to incinerate on Kalama Atoll;
- immediately rescind the Army's permit to incinerate at Tooele; and
- refuse to issue permits to incinerate at the other sites.

As documented by environmental justice research, Federal environmental laws and policies have not provided equal protection to all groups of people. If the EPA is to be a true protective agency that ensures environmental safety for all people, it must take the lead in **preventing** the imposition of unnecessary environmental risks by industry and especially by Federal agencies. It must move away from our nation's current environmental protection paradigm that, according to Bullard:

1) institutionalizes unequal enforcement;
2) trades human health for profit;
3) places the burden of proof on the "victims" not on the polluting industry;
4) legitimates human exposure to harmful chemicals, pesticides, and hazardous substances;
5) promotes "risky" technologies, such as incinerators;
6) exploits the vulnerability of economically and politically disenfranchised communities;
7) subsidizes ecological destruction;
8) creates an industry around risk assessment;
9) delays cleanup actions; and
10) fails to develop pollution prevention as the overarching and dominant strategy (1994, introduction, p. xvi).

Refusing to allow incineration of the Army's stockpiled chemical weapons, and mandating greater involvement of affected communities in the selection of safer alternative methods, would be steps that the EPA could take toward becoming a leader in pollution prevention and a true protective agency for all.

VII

Recommendations

In order to achieve environmental justice at these sites, the following recommendations must be carried out.

1) The current baseline incineration plans must be halted. Reconfiguration followed by neutralization and storage can be implemented until final disposal technologies are chosen that fit each site's needs, safety, health and environmental standards. Alternatively, the Army can expedite implementation of alternative methods acceptable to the affected communities.

2) Alternative technologies that are non-combustion, closed-loop systems suitable for the specific sites should be chosen. These technologies must have no or low levels of toxic emissions, be safe for the workers, the community and the environment.

3) Human health studies (cancer and non-cancer) should be conducted to determine the effects of low-level emissions of nerve agents, dioxins, PCBs and other toxins from any facility that is to be built and must be performed by an independent agency. No communities should be subjected to unnecessary pollution from the technology used to destroy the chemical stockpiles at any site. The EPA Dioxin Reassessment found that national exposure to dioxin from existing sources, mainly incinerators, is already 1 to 2 orders of magnitude greater than any safe dose or reference dose (RfD) the EPA might calculate for dioxin.

4) As directed in Executive Order 12898 on Environmental Justice, all people at all sites should have "the opportunity to comment on the development and design of research strategies" that the order requires and to be involved in all phases of the process of choosing an alternative technology, construction of the facility and monitoring it as the weapons are destroyed. All relevant public information, documents, notices of hearings and other communications must be translated into the language spoken by the population affected. This information must be, as directed by Executive Order 12898, "concise, understandable and readily accessible to the public."

5) Subsistence consumption of wildlife and fish should be taken into account. Research on consumption patterns should be completed before any disposal facility is built. If pollution and levels of toxins such as dioxins are currently too high, no further increases of toxins can be tolerated by the people, and should not be allowed by the EPA.

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